UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,366	02/28/2007	Gottfried Steiner	P/3453-22	3641

2352 7590 11/25/2008

OSTROLENK FABER GERB & SOFFEN
1180 AVENUE OF THE AMERICAS
NEW YORK, NY 100368403

EXAMINER	
BELL, WILLIAM P	

ART UNIT	PAPER NUMBER
4151	

MAIL DATE	DELIVERY MODE
11/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/559,366	STEINER, GOTTFRIED	
	Examiner	Art Unit	
	WILLIAM P. BELL	4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 December 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/6/2005,5/26/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 3-6, 9-13, and 18-24 are not explained or referenced in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 6, 11, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Phillips (International Patent Application Publication No. WO 94/25254, already of record). Regarding claim 1, Phillips teaches a method for binding wood base elements with plastic (see claim 6 and page 2, lines 14-16) by means of an injection molding method (see page 9, lines 14-16) wherein the wood base element is placed in an injection mold (see page 9, lines 5-6) and molten plastic material is injected at a previously selected location or locations (see page 9, lines 14-16), characterized in that the process parameters during the injection molding are set (see page 9, line 15) in such a manner that the molten plastic material is irreversible impressed into the wood base element and/or penetrates therein and/or passes through said wood base element (see page 2, lines 14-16 and Figure 1).

Regarding claim 2, Phillips teaches a method characterized in that the molten plastic material forms indentations acting on the manner of undercuts on the wood base element (see Figure 1, wherein the plastic material **10** forms a vertical projection into the wood material **110**, said projection acting as an undercut to prevent the removal of the formed plastic edge in a horizontal direction).

Regarding claim 6, Phillips teaches a method characterized in that the molten plastic material is molded onto the wood base element so that no visible overspraying is formed on an outer side (see Figure 1, wherein the mold is configured to prevent plastic material from extending beyond the edge of the wood base element)

Regarding claim 11, Phillips teaches a method characterized in that the plastic is a reactive material (see page 9, lines 10-13; it is well known to one of skill in the art that polyurethane and a hardening agent are reactive materials).

Regarding claim 15, Phillips teaches a method characterized in that the indentation(s) and/or intercalation(s) have an extension of 1 mm to several centimeters (see page 10, lines 2-3).

Regarding claim 16, Phillips teaches a wood-plastic composite component produced by the method according to claim 1 (see page 2, lines 14-16)

Regarding claim 17, Phillips teaches a wood-plastic composite characterized in that it is a sports device, an office device, a window, a door, an item of furniture, a floor covering, a toy, packaged goods, a machine or vehicle component, a musical instrument, or a hand tool (see page 2, line 7).

4. Claims 1, 3, 9-10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Waite (U.S. Patent No. 3,481,810). Regarding claim 1, Waite teaches a method for binding wood base elements with plastic (see column 1, lines 25-27) by means of an injection molding method (see Figure 7 and column 3, lines 43-48, wherein forcing resin by heat and pressure into and around the wood blocks while in a mold comprises an injection molding method) wherein the wood base element is placed in an

injection mold (see Figure 7 and column 5, lines 61-64) and molten plastic material is injected at a previously selected location or locations (see Figure 7 and column 5, lines 66-69), characterized in that the process parameters during the injection molding are set (see column 6, lines 27-29) in such a manner that the molten plastic material is irreversible impressed into the wood base element and/or penetrates therein and/or passes through said wood base element (see Figure 9 and column 6, lines 64-65).

Regarding claim 3, Waite teaches a method characterized in that at least one intercalation running at least substantially in the direction of the wood fiber is formed in the wood base element (see Figure 9 and column 6, lines 64-65).

Regarding claim 9, Waite teaches a method characterized in that the plastic is a thermoplastic material (see column 1, line 27).

Regarding claim 10, Waite teaches a method characterized in that the temperature of the molten plastic material is selected between 130° and 400°C (see column 6, lines 27-29).

Regarding claim 12, Waite teaches a method characterized in that the temperature of the liquid plastic corresponds to room temperature or is selected to be higher (see column 6, lines 27-29).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips. Phillips remains as applied to claim 1 above, but is silent regarding the species of wood employed. However, it is well known to one of ordinary skill in the art that doors are fabricated from soft woods such as pine and hard woods such as oak, as well as many other common species of wood. Balsa is one of the softest known woods, while oak is one of the hardest known woods. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the method taught by Phillips to woods in the property spectrum between balsa and oak.

7. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips as applied to claim 1 above, and further in view of Shepherd (U.S. Patent No. 3,962,399, already of record). Regarding claim 7, Phillips is silent regarding the injection pressure of the molding system. In the analogous art of overmolding wood inserts, Shepherd teaches a method of injection molding a plastic material onto a wood insert (see column 4, lines 14-19) wherein the injection pressure at the injection molding system is selected between 10 bar and 2500 bar (see column 5, lines 61-62) for the purpose of compressing and densifying the wood insert to improve the bond between the wood and the plastic. Regarding claim 8, Shepherd teaches a method characterized in that the mold internal pressure is adjusted from 50 bar to 1400 bar (see column 5, lines 61-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the method taught by Phillips with the high

injection pressures taught by Shepherd for the benefit of improving the bond between the wood element and the plastic material.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Waite as applied to claim 1 above, and further in view of Phillips. Waite does not teach that the injected plastic material forms intercalations in a direction transverse to the wood fiber direction. In the analogous art of overmolding onto wood inserts, Phillips teaches that injected plastic penetrates the wood in multiple directions (see Figure 1). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention that the method taught by Waite would inherent comprise the formation of intercalations of plastic material in the wood in directions other than along the wood fiber direction.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Waite (claims 1 and 2) in view of Phillips (claims 1, 3 and 4), or Philips alone as applied to claims 1 and 3 above. Phillips teaches a method characterized in that the plastic intercalations and/or the plastic-filled indentations and similar are formed at previously constructively specified locations of the wood base element (see Figure 1, wherein a plastic-filled indentation is formed in a groove that has been constructed in the wood base element and plastic intercalations are formed at the interface between the main body of the injected plastic and the surface of the wood in said groove) and would have been obvious to so include for the associated filling benefit.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Phillips as applied to claim 1 above, and further in view of Rosato (Rosato, D.V., D.V. Rosato, and M.G. Rosato, *Injection Molding Handbook*, 3rd Edition, 2000, page 114). Phillips is

silent regarding the plastic injection time. However, it is well known to one of skill in the art that such times typically range from less than a second to several seconds, depending on the size of the object being molded, the viscosity of the resin, and various molding machine limitations. As an example, Rosato teaches a molding operation wherein the injection time is 2.62 seconds (see page 114, last paragraph). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used a plastic injection time of less than a second to several seconds in the method taught by Phillips for the benefit of optimizing the filling process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM P. BELL whose telephone number is (571)270-7067. The examiner can normally be reached on Monday - Thursday, 7:30 am - 5:00 pm; Alternating Fridays, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on 571-272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

wpb

/Angela Ortiz/

Supervisory Patent Examiner, Art Unit 4151